DOCUMENT RESUME

ED 233 452 EA 015 874

AUTHOR Berger, Michael A.
TITLE Retrenchment Policies and Their Organizational Consequences.
SPONS AGENCY National Inst. of Education (ED), Washington, DC.
PUB DATE 82
GRANT NIE-G-80-0170
NOTE 24p.; An earlier version of this paper was presented at the Conference on Managing Enrollment Decline (Nashville, TN, February 26-27, 1982), co-sponsored by the National Institute of Education and Vanderbilt University. For related documents, see EA 015 726 and EA 015 871-877.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Administrator Selection; Case Studies; Consolidated Schools; Consultants; *Educational Equity (Finance); *Educational Policy; *Efficiency; Elementary Secondary Education; Expenditure Per Student; Hypothesis Testing; *Organizational Theories; *Policy Formation; Questionnaires; Reduction in Force; Regression (Statistics); *Retrenchment; School District Spending; Student Teacher Ratio; Superintendents; Teacher Administrator Relationship

ABSTRACT

This paper focuses on the organizational consequences of retrenchment policies emphasizing efficiency (selective cuts to insure long-term survival) and equity (across the board actions). The effectiveness of each of these policies was tested on 59 cases of school district enrollment decline over a 10-year period by means of a questionnaire/checklist and followup interview. Dependent variables considered were per pupil expenditures, teacher-administrator equity (change in ratio of teachers to administrators over time), and pupil-teacher ratio. Independent variables included two substantive retrenchment policies--reduction in force (RIF) rate and consolidation rate (speed with which districts closed schools)--and two process retrenchment policies--superintendent selection and use of a consultant. Environmental variables were limited to community type and decline rate. Regression analysis of hypotheses constructed using all variables tends to support the efficiency model of educational policymakers. Results further indicate that the use of consultants in urban situations has a significant effect on teacher-administrator equity and that outside successors are consistently more effective than superintendents drawn from within the organization. The fact that RIF and school consolidation emerged as of little organizational consequence suggests that educational policymakers in times of crisis deal with issues as they come up, like firefighters. (JBM)

ED233452

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

RETRENCHMENT POLICIES AND THEIR ORGANIZATIONAL CONSEQUENCES*

by

Michael A. Berger
Peabody College of Vanderbilt University

---

*This paper is based on a larger study supported by a National Institute of Education grant (NIE-G-80-0170). Any opinions, conclusions, or recommendations in the paper are those of the author and not necessarily the views of the Institute.

I am grateful to Ned Reese, Carol Boone, Gayle Fox, and Pam Henderson for their help in data collection, and to Dirk Lorenzen for his help in data analysis.

EA 015 874

Major Products Emanating from
Organizational Responses to Decline
NIE Grant G-80-0170

Michael A. Berger, PhD
Peabody College of Vanderbilt University
December, 1982

This paper is one of several products emanating from the research titled Organizational Responses to Decline. The complete list (to date) is as follows:

1. Berger, M. Two paradoxes in managing decline: Comprehensive planning and participation. In Kae H. Chung (ed.). The 1982 Academy of Management Proceedings. Loveland, Colorado: Lithographic Press, 1982, 334-338.

   This paper was also awarded the "1982 Best Paper in the Public Sector Division" of the Academy of Management at its 1982 Annual Meeting in New York, August, 1982.

2. Berger, M. Class size is not the issue. Paper presented at the National School Board Association Annual Meeting, Atlanta, April, 1982.

3. Berger, M. Organizational Responses to Decline: Summary Report. Submitted to the National Institute of Education, December, 1982.

4. Berger, M. Managing enrollment decline: Current knowledge and future applications. Peabody Journal of Education, 1983, (Forthcoming).*

5. Berger, M. Neighborhood schools: The new (?) legal response to enrollment decline and desegregation. Urban Education, 1983, (Forthcoming).**

6. Berger, M. Retrenchment policies and their organizational consequences. Peabody Journal of Education, 1983, (Forthcoming).*

7. Berger, M. Stages in decline: How educational organization scales down. Educational Administration Quarterly, 1983, (Under review).**

8. Berger, M. Studying enrollment decline (and other timely issues) via the case survey. Educational Evaluation and Policy Analysis, 1983, (Forthcoming).**

9. Berger, M. Why communities protest schcol closings. Education and Urban Society, 1983, (Forthcoming).**

10. Boone, C. The effects of succession on organizations in decline. Doctoral Dissertation, Peabody College of Vanderbilt University, Nashville, Tennessee, April, 1982.

---

* An earlier version of this paper was presented at the Conference on Managing Enrollment Decline, Co-sponsored by NIE and Vanderbilt University, Nashville, Tennessee, February 26-27, 1982.

** An earlier version of this paper was presented at the American Educational Research Association Annual Meeting in New York City, March 19-23, 1982.

In one of the pioneering efforts in the study of enrollment decline, Larry Cuban (1979) observed that while there was a plethora of cookbooks for practitioners on how to close schools, avoid disastrous community conflict, and find community uses for empty school buildings, the literature on the actual effects of fewer and fewer students, with some exceptions, remained particularly thin. To respond to this problem, Cuban analyzed the organizational and political impact of shrinking enrollment and school consolidation in Arlington, Virginia between 1973 and 1978.

Cuban's study of the Arlington situation is important to us for at least three reasons. First, he provided a rich description of the conditions, board policies, and effects of enrollment decline in a rather typical suburban community. Second, his analysis raised many perceptive questions about the direct and indirect effects of contraction, the short vs. long-term impact of certain board policies, and whether decline could be managed by skill and grace, or by luck. Finally, his discussion concluded with a list of questions for further study and challenge to other researchers to break out of their intellectual straightjackets that view shrinking enrollment and school closures as a disaster for everyone involved.[1]

The purpose of the present article is to attempt to respond to Cuban's challenge. The focus of our analysis will be on the impact of four typical retrenchment policies on three organizational outcomes. In addition, we will go beyond the description of one particular district to analyze the enrollment decline experiences in many districts. Finally, the paper will explicitly test two prevailing theories of policymaking in educational organizations.

After discussing these two theories briefly, the study's method will be described. The third section reports the research results and the final section will identify the study's conclusions and practical implications.

THEORY

Two views of educational policymakers will guide this inquiry. The first perspective, closed-rational, suggests that educational leaders enact retrenchment policies to emphasize efficiency over equity. This approach contends that policymakers manage organization adaptation to decline by increasing organizational efficiency. This perspective assumes that educational leaders have both the knowledge of cause and effect, and the ability to carry out the necessary policies.

The second view, in contrast, is based on an open-system, political model of educational policymakers.[2] In this perspective, retrenchment policies are intended to balance the tradeoffs, build coalitions, and satisfy competing interests. Instead of striving for efficiency, this approach suggests that educational leaders will emphasize equity. Like the closed-rational model, this perspective also assumes educational policymakers have the ability to predict and thereby control organizational outcomes.[3]

METHOD

Sample

A nonrandom sample of school districts whose enrollment decline experiences were reported in case studies was used to test these perspectives. Originally, 208 cases of decline were discovered. Since the cases varied considerably in quality, 59 cases (peak enrollment year 1970-71) were analyzed. The cases come from professional journals, fugitive (nonpublished) documents, ERIC bibliographies, professional meetings, and other publications.

Data Collection

Data covering a 10-year period were collected via the case survey method (Berger, 1982a). The procedure involves the analysis of cases with

a closed-ended questionnaire, called a checklist. The checklist contains variables of interest to the researcher and can be aggregated to produce generalizations based on conventional statistical techniques. The method is particularly appropriate when a body of empirical evidence, such as the enrollment decline literature, has a large proportion of one-shot case studies. The case survey increases generalizability beyond the findings from one case alone.

After case search and checklist development, trained analysts read the cases and filled out the checklists, one for each district. A follow-up interview procedure supplied data missing from the original case study. To control for unreliable checklist application (when different case analysts fail to judge case events in the same way), 36 cases (61%) were reassigned to a second analyst to determine the degree of consistency between two independent raters on the same district. On a random sample of 50 items for the 36 cases, the average Pearson's correlation coefficient corrected by the Spearman-Brown Prophecy Formula for the two raters was .78. Jauch et al. (1980) suggest that a Spearman-Brown reliability of at least .67 is adequate for questionnaires, and hence, case survey research (see Berger, 1982a for a full discussion of the case survey, its process, problems, and applications).

Model for Analysis

The framework to measure the impact of retrenchment policies on organizational outcomes comes from a macroanalytic, sociological perspective. While psychological or social-psychological influences are undoubtedly important, they were disregarded in the model because they seem more suited to a micro-analytic focus. As Figure 1 indicates, the model contains three principal components: (1) the environment, (2) the two types of retrenchment policies, and (3) organizational consequences (see Berger, 1983).

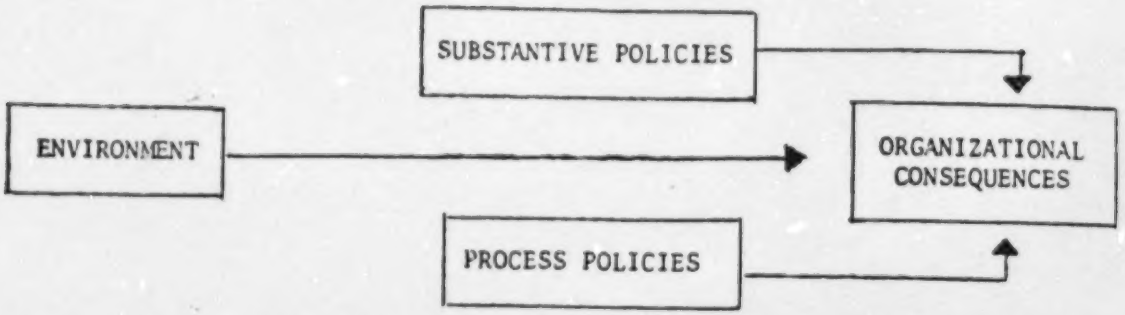

FIGURE 1. A MODEL FOR THE ANALYSIS OF RETRENCHMENT POLICY IMPACT

Measures

Organizational consequences (dependent variables). The dependent variables in this study were measured ten years after enrollment had peaked in the district. Case analysts recorded the variables in the year of peak enrollment (PE) and two-year increments thereafter (PE+2, PE+4, PE+6, PE+8, and PE+10). The decision to use a ten-year timeframe, with two-year increments, was somewhat arbitrary. It was based on the study of numerous enrollment decline materials, knowledge of the retrenchment policy process (see Berger, 1982b), and the availability of data.

Three dependent variables were used in this study. First, per pupil expenditure was calculated where expenses typically included (a) teacher salaries, (b) professional support salaries, (c) instructional supplies, (d) administrative costs, (e) maintenance and repairs, (f) transportation costs, (g) fixed charges, such as social security, and (h) debt service. Once obtained, however, per pupil expenditure data had to be adjusted for inflation. Since inflation varies by district, the per pupil expenditure of a district in PE+10 was deflated by converting the actual expenditures to 1967 constant dollars. Comparisons between districts could then be made.

The adjustment procedure used was to multiply the per pupil expenditure figure (PE+10) by 100 and divide by the consumer price index in that community for that same year. The consumer price index is a statistical

measure of change over time in the prices of goods and services in major expenditure groups such as food, housing, appliances, transportation, and medical care. It is computed by comparing the sample of "market basket items" in any year with the cost of that same market basket at an earlier date. The base year is 1967; the reference amount is $100 (Bureau of Economic Statistics, 1981, 97-115).[4]

The second dependent variable was teacher-administrator equity, defined as the change in the ratio of teachers to administrators in a district over time. It comes as no surprise that personnel costs account for up to 80% of a school budget (Cuban, 1979). As a result, educational leaders reduce the number of personnel in times of fiscal stress. What is unclear, however, is whether administrators are terminated at the same relative rate as teachers. Some researchers have shown they are not (Hannan and Freeman, 1977; Ford, 1980). Beginning with the peak enrollment year, the equity value for each district in PE+10 was calculated by taking the ratio of teachers to administrators and dividing it by the ratio of teachers to administrators in PE+10. For example, if a district had 50 teachers and 10 administrators in the peak enrollment year, and 40 teachers and 10 administrators in PE+10, the equity figure would be 1.25 (50÷10 / 40÷10 = 1.25). Any value over 1.0 indicates that teachers were cut at a faster rate than administrators. If, on the other hand, administrators were cut at a faster rate than teachers, the equity ratio would be less than 1.0. Assume, for example, 50 teachers and 10 administrators in PE, and 50 teachers and 5 administrators in PE+10; the equity figure would be 0.5 (50÷10 / 50÷5 = 0.5). Assuming that administrators cost more than teachers, a value greater than 1.0 is not only inequitable, where teachers are concerned, but inefficient as well.

The third dependent variable is pupil-teacher ratio, defined as the number of students per teacher in the district in PE+10. Originally, we sought a standardized performance measure across districts. However, this was virtually impossible to obtain. Since teachers often assert that the quality of instruction declines as the pupil-teacher ratio increases, the pupil-teacher ratio was selected for analysis, although admittedly a more direct evaluation of quality is necessary.

Retrenchment Policies (independent variables). Four independent variables were used in the present study. The first two are substantive retrenchment policies (see Berger, 1983). They are RIF rate and consolidation rate. In the case of RIF rate, we took the number of total employees in the peak enrollment year, minus the total employees in PE+10, and divided by the total number of employees in the peak enrollment year. For example, if a district had 800 employees in its peak enrollment year and 760 in PE+10, its RIF rate would be .05 (800-760 / 800 = .05). Naturally, the fewer the employees in PE+10, the higher the RIF rate.[5]

Consolidation rate, that is, the speed with which the district closed its schools, was calculated in much the same manner. Here the total number of schools in the peak enrollment year minus the number of schools in PE+10 was divided by the number of schools in the peak enrollment year. Thus, if a district used 15 buildings in its peak enrollment year and 12 buildings in PE+10, its consolidation rate would be .20 (15-12 / 15 = .20). Once again, the more schools closed by PE+10, the higher the consolidation rate.

The third and fourth independent variables are process retrenchment policies (see Berger, 1983). They are the origin of the new superintendent (inside vs. outside) if succession occurred before PE+10, and the use of a consultant. It is axiomatic that retrenchment decisions bring intense opposition. In the course of retrenchment, policymakers inevitably

face the issue of whether the current superintendent should continue in his/her leadership role. (Superintendents, I might add, make the same kind of judgement.) Either by action of the board or by resignation, a superintendent will often leave during the retrenchment process, raising the policy question of whether to choose the successor from within the district or bring in an outsider. An insider is thought to lean more toward the preservation of the status quo, whereas an outsider might be in a better position to help the district retrench by "divorcing its past" (Behn, 1980). Case analysts noted whether succession occurred before PE+10 and, if so, whether the new superintendent came from inside or outside the district (coded 1= inside, 0=outside).

Analysts also determined if the district relied on a consultant to help with the retrenchment process. Boulding (1975) has called for an invisible college of experts to facilitate the management of decline, Numerous itinerant consultants and moon-lighting professors have provided technical assistance to beleaguered districts. While the decision of whether or not to use a consultant and which one to employ are highly controversial, the question in this study is whether they make a difference in the dependent variables (coded 1=consultant used, 0=no consultant present).

Environment variables. Two environment variables were used to determine whether or not the various policy effects varied by district context. They were community type (urban-suburban-rural) and decline rate. Decline rate was measured as the number of students in the peak enrollment year, minus the number of students in PE+10, divided by the number of students in the peak enrollment year. Several variables were initially selected, but were omitted because of missing data problems or high correlation with the two selected variables. The excluded variables included population, percent minority, average income, and mean education level in the district.

Hypotheses

Two perspectives on the relationship between retrenchment policies and their organizational consequences were outlined above. The closed, rational model emphasized efficiency (i.e., selective cuts to insure long-term survival). In contrast, the open, political model favored equity (i.e., across the board actions). Based on these two theories, we can formulate the following null hypotheses.

H_1: There will be no difference in per pupil expenditures between districts which have a faster RIF rate, a faster consolidation rate, successors from the outside, and a consultant, and those districts which have a slower RIF rate, slower consolidation rate, successors from the inside, and no consultant. If concerns for efficiency are evident, we would expect: (1) a negative sign between RIF rate and per-pupil expenditures (indicating the faster the RIF rate, the lower the per-pupil expenditures), (2) a negative sign between consolidation rate and per-pupil expenditure, (3) a positive sign for successor origin (suggesting that outside successors are associated with lower per-pupil expenditures), and (4) a negative sign for consultants (i.e., the presence of a consultant is related to lower per-pupil expenditures). If, on the other hand, concerns for equity are predominant, the various signs will be reversed.

H_2: There will be no difference in teacher-administrator equity between districts which have a faster RIF rate, a faster consolidation rate, outside successors, and consultants, and those districts which do not exhibit these characteristics. Concerns for efficiency imply: (1) a negative sign with RIF rate (the faster the RIF rate, the lower the teacher-administrator equity because more expensive administrators will be cut faster than teachers), (2) a negative sign with consolidation rate, (3) a positive sign with successor origin (the presence of an outside successor will be

associated with lower teacher-administrator equity), and (4) a negative sign with consultants (the presence of a consultant will be related to lower equity). If district are more concerned with equity for administrators, however, these signs will be reversed.

H_3: There will be no difference in pupil-teacher ratios between districts with faster RIF and consolidation rates, outside successors, and consultants and those districts without these elements. A focus on efficiency suggests a district will seek pupil-teacher ratios as high as possible to obtain economies of scale. If ratios are relatively low, the quality of instruction (equity for students) presumably improves at the cost of efficiency. For efficiency, therefore, we would expect: (1) a positive sign with RIF rate (the faster the RIF rate, the higher the pupil-teacher ratio), (2) a positive sign with consolidation rate, (3) a negative sign with successor origin (an outside superintendent will be related to higher pupil-teacher ratios), and (4) a positive sign with consultants, indicating the presence of a consultant is associated with higher pupil-teacher ratios. In contrast, if the equity model is operating, the signs will be just the opposite. Figure 2 summarizes the relationships for all hypotheses.

	RETRENCHMENT POLICIES (Independent Variables)			
ORGANIZATIONAL CONSEQUENCE (Dependent Variables)	RIF Rate	Consolidation Rate	Successor Origin	Use of a Consultant
1. Per pupil expenditures	-	-	+	-
2. Teacher-administrator equity	-	-	+	-
3. Pupil-teacher ratio	+	+	-	+

Note: Signs shown are for the "efficiency" model. All signs would be reversed in the "equity" model.

FIGURE 2. SUMMARY OF THEORY PREDICTIONS

Data Analysis

Ordinary least squares (OLS) regression was used to test the four general hypotheses. The technique is particularly appropriate because it provides tests of significance as well as the direction of the relationship between the dependent variable and each independent variable, the magnitude of change in the dependent variable, and the overall explanatory power of each equation. Table 1 gives the means, standard deviations, and zero-order correlation coefficients.

Table 1 about here

RESULTS

Prior to the regression analysis, the zero-order correlation coefficients (Table 1) were examined to determine whether any redundant predictors were included. Correlation coefficients greater than .80 usually suggest that multicollinearity is present in the independent variables (Farrar and Glaubner, 1967). The various correlations show no coefficient equal to or above .80. This low level of predictor correlation should eliminate any concern for multicollinearity. The results of the analysis are shown in Table 2.

Table 2 about here

H_1: Policy Effects on Per Pupil Expenditures

Table 2 (Model 1) shows the regression results for the effects of the four retrenchment policies on per pupil expenditures. With the exception of the use of a consultant, the signs of the coefficients support the efficiency model. The most significant effect ($p<.05$) is from successor

TABLE 1

DESCRIPTIVE STATISTICS AND CORRELATION COEFFICIENTS

• 1A

Independent Variables and Per Pupil Expenditures	Mean	S.D.	1.	2.	3.	4.	5.	6.	7.
1. Per pupil expenditures (000 removed)	1.11	.42							
2. RIF rate	.09	.10	-.19						
3. Consolidation rate	.16	.13	-.05	.01					
4. Successor origin	.38	.48	.28	-.04	.02				
5. Consultant use	.44	.50	.05	-.23	.05	.14			
6. Urban	.34	.47	.14	-.05	.24	.03	.31		
7. Suburban	.48	.50	.01	.03	-.26	-.26	-.22	-.62***	
8. Decline rate	.22	.08	-.09	.13	.01	.21	-.08	-.30	.05

$n = 35$

• 1B

Independent Variables and Teacher-Admin. Equity	Mean	S.D.	1.	2.	3.	4.	5.	6.	7.
1. Teacher-administrator equity	2.63	.90							
2. RIF rate	.09	.10	.08						
3. Consolidation rate	.16	.13	.01	.07					
4. Successor origin	.38	.48	.23	-.05	.23				
5. Consultant use	.44	.50	-.20	-.12	.03	.02			
6. Urban	.34	.47	.27	-.08	.14	.11	.22		
7. Suburban	.48	.50	-.19	.05	-.15	-.25	-.22	-.72***	
8. Decline rate	.22	.08	-.08	.11	.29	.23	.13	.07	.21

$n = 51$

• 1C

Independent Variables and Pupil-Teacher Ratio	Mean	S.D.	1.	2.	3.	4.	5.	6.	7.
1. Pupil-teacher ratio	20.47	4.69							
2. RIF rate	.09	.10	-.05						
3. Consolidation rate	.16	.13	.20	.05					
4. Successor origin	.38	.48	-.24	-.01	.13				
5. Consultant use	.44	.50	.01	-.10	-.01	-.05			
6. Urban	.34	.47	.25	-.03	.14	.07	.22		
7. Suburban	.48	.50	.04	-.03	-.15	-.25	-.05	-.68***	
8. Decline rate	.22	.08	-.03	.18	.11	.08	.03	.13	.01

$n = 59$

*** = $p < .001$

TABLE 2

STANDARDIZED BETA WEIGHTS FOR THE EFFECTS OF RETRENCHMENT POLICIES ON ORGANIZATIONAL CONSEQUENCES

Organizational Consequences (Dependent Variables)	Substantive Policies		Process Policies		Control Variables			R^2	df	F
	RIF Rate	Consolidation Rate	Successor Origin	Use of Consultant	Urban	Suburban	Decline Rate			
MODEL 1:										
Per pupil expenditures	-.25+	-.01	.29*	.02				.15	4,30	1.29
MODEL 2:										
Teacher-administrator equity	-.02	-.11	.23*	-.20				.11	4,46	1.40
MODEL 3:										
Pupil-teacher ratio	-.10	.13	-.24*	.01				.08	4,54	1.13
MODEL 4:										
Per pupil expenditures	-.23+	.01	.35**	.01	.23	.23[1]	-.03	.28	7,27	1.06
MODEL 5:										
Teacher-administrator equity	-.01	-.08	.22*	-.28**	.36**	.07	-.07	.21	7,44	1.90
MODEL 6:										
Pupil-teacher ratio	-.11	.15	-.22*	-.10	.56***	.35**	.07	.23	7,51	2.19*

+$p < .10$
*$p < .05$
**$p < .01$
***$p < .001$

[1]A negative sign on the "suburban" coefficient signifies the values for rural districts.

origin. Where successors come from outside the district, per pupil expenditures are lower than if successors are promoted from within. RIF rate approaches significance at a less stringent level ($p<.10$). The use of consultants apparently has no effect on per pupil expenditures.

The anomalous finding is the lack of a relationship between consolidation rate and per pupil expenditures. Contrary to the conventional wisdom, the data show that districts which consolidate their schools faster do not differ significantly in their per pupil expenditures from districts which consolidate more slowly. Finally, when we control for differences of both community type and decline rate (Model 4), the original relationships of Model 1 are sustained.

H_2: Policy Effects on Teacher-Administrator Equity

The issue for this hypothesis is whether the various retrenchment policies increase the equity value (indicating teachers are cut at a faster rate than administrators) or drive that value down (suggesting administrators are cut faster). The results in Model 2 once again support the efficiency conception of retrenchment policymakers. However, with the exception of successor origin, each policy fails to reach statistical significance. That is, the equity value does not vary as a result of a faster or slower RIF rate, faster or slower consolidation rate, or whether or not the district uses a consultant.

Successor origin, on the other hand, does make a difference. The data show that successors who originate from outside the district are associated with relatively lower equity values than successors from within the district. This finding lends strong support for the efficiency model. Finally, when we control for community type and decline rate (Model 5), two changes occur. First, the original insignificant relationship between consultants and equity becomes significant ($p<.01$). When consultants are used, the equity value is lower than if

consultants are not used. Apparently consultants are associated with lower equity values (i.e., administrators cut at a faster rate than teachers). This correlation supports the efficiency model. Secondly, the coefficient for urban districts is positive and significant ($p<.01$), indicating that urban districts tend to have higher equity values than suburban or rural districts.

H_3: Policy Effects on Pupil-Teacher Ratio

Three signs on the beta coefficients (Model 3) are congruent with the efficiency predictions. In addition, the data show that consolidation rate and the presence of a consultant have no significant effect on pupil-teacher ratio. Successor origin, in contrast, does have a significant effect ($p<.05$). Successors who come from the outside are associated with higher pupil-teacher ratios than successors who come from within. Moreover, when we control for community type and decline rate (Model 6), the original relationships remain the same. Finally, ratios are higher in urban and suburban districts than in rural districts.

The major anomaly in the data is the negative effect of RIF rate on pupil-teacher ratio. One would expect to find that the faster the RIF rate, the higher the pupil-teacher ratio; instead, the sign shows that the faster the RIF rate, the lower the pupil-teacher ratio. At least two explanations may be appropriate here. On the one hand, the RIF rate variable includes all employees in a district, instructional and non-instructional. Thus, if non-instructional personnel are cut at a faster rate than teachers, the overall RIF rate could be high but the pupil-teacher ratio could remain relatively low. The second explanation centers on the loss of students in relation to the loss of teachers. If students are leaving the district at a faster rate than teachers, then the overall RIF rate could be high while the pupil-teacher ratio remains low. Since both explanations are untested

in the present study, it is impossible to know which one, if any, is really correct Finally, it is important to emphasize that while the sign on the beta weight is negative, the actual relationship between RIF rate and pupil-teacher ratio failed to reach statistical significance at the .05 level. Thus, there is no difference in pupil-teacher ratios between districts with a fast RIF rate and districts with a relatively slower RIF rate.

CONCLUSIONS AND IMPLICATIONS

The interpretation of these results must be tempered by the possibility of a biased sample. The case survey takes as its unit of analysis cases written about a district's particular enrollment decline experiences. If the original cases were distorted, the bias is transmitted to the present study. In addition, researchers know that correlation does not imply causation. Despite the association (or lack thereof) between certain variables, some untested third variable may be operating to cause the original relationship to be spurious.

These qualifications notwithstanding, several conclusions can be drawn from the data. First, the signs on the coefficients tend to support the efficiency model of educational policymakers. However, while many signs were in the predicted direction, their coefficients failed to reach statistical significance. More specifically, RIF rate and consolidation rate did not have a statistically significant effect on per pupil expenditures, teacher-administrator equity, or pupil-teacher ratios. Second, the use of a consultant was statistically significant in relationship to teacher-administrator equity when the urban variable was entered. Finally, successor origin was significantly related to the three organizational outcomes; in each instance, outside successors were more efficient than inside successors.

Theoretical Implications

Two anomalies stand out in this study: the insignificant effect of RIF rate and the insignificant impact of consolidation rate. Per pupil expenditures, teacher-administrator equity, and pupil-teacher ratios were unaffected by a change in either the rate at which personnel were reduced or schools were closed.

What explains these findings? One possibility might center on the study's methodology. For the reasons listed above, one might explain the lack of a relationship by simply stating that the limitations in the study contaminated the data. A study more methodologically correct might yield, in turn, more significant results. This argument is hard to refute.

However, if one agrees that the study followed the rules of social science research, another explanation for the lack of significant effects for RIF and consolidation rates could center on theory. That is to say, it is conceivable that retrenchment decisions have little to do with either efficiency or equity. Instead, they are directed at another aspect of educational leadership, namely, the need to "fight fires" on a continuous basis, without knowing exactly how to do so or the ultimate effects of these efforts. The argument here is that the twin factors of shrinking enrollment and rising costs create a constant crisis (i.e., deficit) in the district from one budget year to the next. Policymakers attempt to respond to these crises but are constrained in their actual alternatives for doing so. Just as firefighters are limited by the length of hose on the truck, the location of the nearest hydrant, and the extent of fire involvement when they arrive on the scene, so too are educational leaders constrained by seniority rights, government mandates, and/or angry parents (Levine, 1979).[6]

Practical Implications

The data showed that RIF rate had no significant effect on any of the measured organizational consequences. This is probably due to the fact that instructional personnel are typically RIFed at a faster rate than administrative personnel and, within the instructional personnel category, the least expensive staff are RIFed at a faster rate than the older (and more expensive) staff.

Thus, a logical implication of this assertion is to concentrate reduction-in-force policies to produce both efficiency and equity. Policymakers could, for example, develop and improve their early retirement incentives to encourage older personnel to leave before they are legally required to do so. Districts could strengthen their RIF criteria beyond seniority alone. Job roles could be redefined: older teachers could be used as consultants, redundant administrators could be given the opportunity to return to the classroom, full-time teachers could become part-time, and outplacement services could be set up to help administrators, teachers, and non-instructional personnel find jobs outside the school system. In each example, demands for greater efficiency would be met without penalizing selected groups.

Another surprise in the data was the lack of a significant effect from the consolidation rate variable. The conventional wisdom suggests that districts will obtain greater efficiency by consolidating under-utilized facilities. In contrast, this study found no significant relationship between this factor and any of the measured organizational consequences. This probably occurred for two reasons. First, educational leaders do not always have the ability to anticipate the costs associated with school closings (e.g., increased transportation, redundant personnel, and accelerated enrollment decline by disgruntled parents). Second, school closings, where desegregation is concerned, typically center on older, all-black schools in the inner city, as opposed to underutilized white schools. It is easier to

bus black students to predominantly white schools (and close the black schools) than to equate the busing burden and close more expensive suburban schools in white neighborhoods.

A natural implication of this contention is that under-utilized schools should be kept open. To offset the rise in per pupil costs in operating under-utilized buildings, educational leaders should vigorously seek alternate uses such as daycare programs, social service agency rentals, and/or sheltered workshops.

The clearest, most consistent finding of this study is that successors who come from outside the district are more efficient than successors from within. Behn (1980) anticipated this finding by stating that outside successors will feel less compelled to justify and continue an agency's past behavior. Thus, if a district wishes to effect efficiency alone, it appears an outside successor will be the best policy to obtain this outcome.

Finally, it is difficult to draw an implication from the data regarding the use of a consultant. The use of a consultant had no effect on per pupil expenditures and pupil-teacher ratios, but a significant effect on teacher-administration equity. Thus, educational leaders might want to evaluate closely their motives for bringing in an outside expert. The cost may not be worth the potential benefits.

In conclusion, this study employed the case survey method to evaluate the effects of four retrenchment policies on three organizational outcomes. With very few exceptions, the data tend to support the efficiency conception; the clearest finding was that outside successors were more efficient than inside successors. But, certain anomalies occurred which led to the assertion that board members may be like firefighters. Unlike firefighters, however, board members do not have a theory of cause and effect (where enrollment decline is concerned), do not see the fire go out, and do not enjoy the broad support of the community. With very few degrees of freedom, but a pressing need to act, educational leaders may make retrenchment decisions which are aimed more at balancing the budget (putting out the fire) than obtaining either efficiency or equity in the long run.

FOOTNOTES

[1] Cuban argued that he was not raising these questions out of a need to make virtues of necessity (his phrase). Instead, he observed that researchers preferred growth over decline, expansion over contraction, and calm over conflict. He was afraid these values might prevent enrollment decline research which, in turn, would prevent the accumulation of practical suggestions for school policymakers.

[2] I am indebted to Whetten (1981) for identifying these two models. Readers are referred to his article for an elaboration.

[3] Whetten argues that contemporary educational institutions tend to favor passive responses to retrenchment, rather than aggressive, innovative responses which will enhance the organization's long-term adaptive potential (1981, p. 91). While he considers passive responses the result of concerns for "efficiency" (in his terminology), they seem more congruent with concerns for equity in this paper.

[4] For example, assume the per pupil expenditures for a district in PE+10 were 2.40 (000 removed) and its consumer price index was 189.3. The resulting equation is 2.40/189.3 = x/100; x = 1.27. Thus, the per pupil expenditures for that district, controlling for inflation, were 1.27. By adjusting each raw figure by its consumer price index, comparisons across districts can be made.

[5] The use of ratio variables with common components in multiple regression raises the methodological issue of whether common components create a statistical artifact such that any observed relationship between the variables is not accurate. In the present study, for example, the RIF rate measure includes the number of teachers in its calculation and so does pupil-teacher ratio. Several discussions on the use of ratio variables with common components have appeared recently (see MacMillan and Daft, 1980, for a comprehensive review of this literature). While earlier articles discouraged the use of this practice, the latest evidence suggests that observed correlations correctly represent the empirical relationships contained in the raw data and create no difficulty.

> Findings from this analysis document and extend previous arguments of Kasarda and Nolan and MacMillan and Daft and lead to the general conclusion that ratio variables with common components are technically valid to use in sociological research. A ratio variable is a distinct entity and correlations with other variables are free of distortion (MacMillan and Daft, 1980, p. 1127).

[6] The firefighting metaphor builds on the concepts of intended rationality (Cyert and March, 1963) and garbage-can decisionmaking (March and Olsen, 1976). It goes farther to argue that decisionmaking is a function of the need to solve short-term problems in ways that will not significantly affect the dominant interests in the district.

REFERENCES

Behn, R. How to terminate a public policy. Policy Analysis, 1978, 4, 393-413.

Berger, M. Studying enrollment decline (and other timely issues) via the case survey. Paper presented to the Annual Meeting of the American Educational Research Association, New York, March 19, 1982 (a).

Berger, M. Stages in decline: How an educational organization scales down. Paper presented to the Annual Meeting of the American Educational Research Association, New York, March 23, 1982 (b).

Berger, M. Managing enrollment decline: Current knowledge and future applications. Peabody Journal of Education, 1983,

Boulding, K. The management of decline. Change, (June) 1975, 8-9.

Bureau of Economic Statistics. The Handbook of Basic Economic Statistics. Washington: Economic Statistics Bureau, 1981.

Cuban, L. Shrinking enrollment and consolidation. Education and Urban Society, 1979, 11, 367-395.

Cyert, R. The management of universities of constant or decreasing size. Public Administration Review, 1978, 38, 344-349.

Cyert, R. and March, J. A Behavioral Theory of the Firm. Englewood Cliffs, NJ: Prentice-Hall, 1963.

Farrar, D. & Glaubner, R. Multicollinearity in regression analysis. Review of Economics and Statistics, 1967, 49, 92-107.

Ford, J. The administrative component in growing and declining organizations: A longitudinal analysis. Academy of Management Journal, 1980, 23, 615-630.

Hannan, M. & Freeman, J. The population ecology of organizations. In M. Meyer (ed.), Environments and Organizations, San Francisco: Jossey-Bass, 1978.

Jauch, L. et al. Structured content analysis of cases, Academy of Management Review, 1980, 5, 517-525.

Levine, C. More on cutback management: Hard questions for hard times. Public Administration Review, (March/April) 1979, 39, 179-183.

MacMillan, A. & Daft, R. Relationships among ratio variables with common components; Fact or artifact? Social Forces, 1980, 58, 1109-1128.

March, J. & Olsen, J. Ambiguity and Choice in Organizations. Bergen, Norway: Universiteetsforlaget, 1976.

Whetten, D. Organizational responses to scarcity. Educational Administration Quarterly, (Summer) 1981, 17, 80-97.